# CLAIMS

1. (Currently amended) A method for constructing MPEG I-frames comprising the
2    steps of:

   a) configuring a JPEG engine to produce ~~byte-aligned~~ JPEG data <u>in which</u>
4       <u>discrete cosine transform coefficients are encoded in a byte-aligned manner</u>;
      and

6    b) performing JPEG processing, using the JPEG engine, on an uncompressed
      digital image, producing ~~byte-aligned~~ JPEG data <u>encoding discrete cosine</u>
8       <u>transform coefficients in a byte-aligned manner</u>; and

   c) reading the ~~byte-aligned~~ JPEG data; and
10   d) converting the JPEG data to MPEG data.

2. (Original) The method of claim 1, further comprising the step of storing the
2   MPEG data in an MPEG file.

3. (Original) The method of claim 2, further comprising the step of adding file
2   header information to the MPEG file.

4. (Original) The method of claim 1 wherein the step of configuring the JPEG engine
2   is accomplished by specifying table generating values that are used by the JPEG
   engine to generate Huffman code tables.

5. (Currently amended) The method of claim 1, further comprising the steps of:
2   a) providing conversion tables for converting ~~byte-aligned~~ JPEG data <u>in which</u>
      <u>discrete cosine transform coefficients are encoded in a byte-aligned manner</u> to
4       MPEG data; and

   b) performing the step of converting the JPEG data to MPEG data using the
6      conversion tables.

6. (Currently amended) A digital imaging device comprising:
2   a) a lens for focusing light; and

   b) an electronic array light sensor for receiving the focused light from the lens;
4      and

c) a logic unit for controlling the ~~camera~~ <u>digital imaging device</u> and receiving
6      image information from the electronic array light sensor, the logic unit
comprising a microprocessor system and a JPEG engine, the logic unit adapted
8      to

     i.    configure the JPEG engine to produce a ~~byte-aligned~~ data stream <u>in</u>
10        <u>which discrete cosine transform coefficients are encoded in a byte-</u>
<u>aligned manner;</u> and

12      ii.    convert the ~~byte-aligned JPEG~~ data stream to an MPEG data stream
representing an MPEG I-frame.

7. (Original) The digital imaging device of claim 6 wherein the digital imaging
2    device is a camera.

8. (Currently amended) An image compression system comprising:
2     a) means for obtaining an uncompressed digital image; and
    b) means for performing JPEG image processing; and
4     c) means for configuring the JPEG processing means to produce a ~~byte-aligned~~
       data stream <u>in which discrete cosine transform coefficients are encoded in a</u>
6        <u>byte-aligned manner;</u> and
    d) means for converting the ~~byte-aligned JPEG~~ data stream to a data stream
8        representing an MPEG I-frame.

9. (Original) A table of byte-aligned codes for JPEG DC coefficients, the table
2    comprising Huffman codes, each Huffman code having a following bit pattern, the
combined lengths of each Huffman code and corresponding following bit pattern
4    being an integer multiple of 8 bits.

10. (Original) The table of claim 9, the table comprising nine Huffman codes having
2    lengths of 1, 2, 3, 4, 5, 6, 7, 8 and 8 bits, followed by bit patterns of 7, 6, 5, 4, 3, 2,
1, 0, and 8 bits respectively.

11. (Original) A table of byte-aligned codes for JPEG AC coefficients, the table
2    comprising Huffman codes, each Huffman code having a following bit pattern, the

4      being an integer multiple of 8 bits.

12. (Original) The table of claim 11, the table comprising 130 Huffman codes

2      allocated as sixteen Huffman codes of each length 8, 9, 10, 11, 12, 13, 14, and 15
       bits and two codes of length 16 bits, each code followed by a following bit pattern

4      such that each Huffman code and its following bits consist of 16 total bits.

13. (Original) A lookup table that correlates byte-aligned JPEG DC coefficient codes

2      and following bits with equivalent MPEG DC coefficient codes and following
       bits.

14. (Original) A lookup table that correlates byte-aligned JPEG AC coefficient codes

2      and following bits with equivalent MPEG AC coefficient codes.

15. (New) A method, comprising configuring a JPEG engine to produce bit patterns

2      that encode discrete cosine transform coefficients, each bit pattern that encodes a
       discrete cosine transform coefficient having a length that is an integer multiple of

4      eight bits.

16. (New) The method of claim 15, wherein each bit pattern that encodes a discrete

2      cosine transform coefficient comprises a Huffman code.

17. (New) The method of claim 16, wherein at each bit pattern that encodes a

2      nonzero discrete cosine transform coefficient comprises a set of one or more
       following bits.

18. (New) The method of claim 15, further comprising:

2          providing a table that correlates the bit patterns produced by the JPEG engine
               with corresponding bit patterns that encode the discrete cosine transform

4               coefficients in MPEG format; and
           indexing into the table, using a bit pattern produced by the JPEG engine, in

6               order to locate the corresponding MPEG bit pattern.

19. (New) The method of claim 15, wherein the JPEG engine is implemented in
software.

20. (New) A method, comprising constructing JPEG data in which each bit pattern
encoding a run/value combination has a length that is an integer multiple of eight
bits.

21. (New) The method of claim 20, further comprising configuring a JPEG engine to
produce the JPEG data.

22. (New) The method of claim 20, wherein each bit pattern that encodes a run/value
combination comprises a Huffman code that encodes a run/size combination, and
a following bit pattern that encodes a value for an AC discrete cosine transform
coefficient.

23. (New) The method of claim 20, further comprising constructing JPEG data in
which each nonzero DC discrete cosine transform coefficient is encoded by a bit
pattern having a length that is an integer multiple of eight bits.

24. (New) The method of claim 20, further comprising converting the JPEG data to
MPEG data using a lookup table.